

**What is claimed is:**

1           1. A radial vibration detection apparatus for  
2 detecting the radial vibration value of an optical  
3 assembly of an optical disc drive, the optical assembly  
4 having a turntable, the turntable having a first part and  
5 a second part connected thereto, the first part having an  
6 iron element and a plurality of clamp elements extended  
7 to the second part, the radial vibration detection  
8 apparatus comprising:

9           a cover having a cover body, a plurality of engaging  
10           elements and a circumferential flange, the  
11           engaging elements disposed on the lower surface  
12           of the cover body in an equiangular manner, the  
13           circumferential flange is formed on the cover  
14           body, the cover body having a magnet  
15           accommodating portion formed on the center  
16           thereof, wherein a first positioning element is  
17           disposed on the circumferential flange, and  
18           each of the engaging elements has a first  
19           sloped surface and a through hole;

20           a magnet disposed in the magnet accommodating  
21           portion;

22           a plurality of clamping structures sliding and  
23           disposed in the through holes of the engaging  
24           elements, respectively; and

25           a base disposed under the cover and having a bottom,  
26           a circumferential wall and a second positioning  
27           element, the circumferential wall upwardly  
28           formed on the bottom, the second positioning

29 element disposed on the circumferential wall to  
30 engage the first positioning element disposed  
31 on the circumferential flange of the cover,  
32 wherein the bottom is formed with a fitting  
33 hole and a plurality of through grooves, the  
34 fitting hole formed on the center of the bottom  
35 and accommodating the turntable, and the  
36 through grooves formed on the bottom in a  
37 radial and equiangular manner and corresponding  
38 to the clamp elements of the turntable.

1 2. The radial vibration detection apparatus as  
2 claimed in claim 1, wherein each clamping structure  
3 further comprises a linking shaft, a retardant element  
4 and a retaining element, the linking shaft fitted in the  
5 through hole of each engaging element, the retardant  
6 element and retaining element connected to two opposite  
7 ends of the linking shaft, respectively, and the  
8 retardant element pushing against the second part of the  
9 turntable.

1 3. The radial vibration detection apparatus as  
2 claimed in claim 1, wherein the first positioning element  
3 is a through hole.

1 4. The radial vibration detection apparatus as  
2 claimed in claim 3, wherein the second positioning  
3 element is a column.

1 5. The radial vibration detection apparatus as  
2 claimed in claim 1, wherein the first positioning element  
3 is a column.

1           6.    The radial vibration detection apparatus as  
2    claimed in claim 5, wherein the second positioning  
3    element is a through hole.

1           7.    The radial vibration detection apparatus as  
2    claimed in claim 2, wherein the retardant element further  
3    comprises a second sloped surface matching the first  
4    sloped surface of each engaging element.

1           8.    The radial vibration detection apparatus as  
2    claimed in claim 1, wherein the bottom of the base  
3    further comprises a plurality of spaced portions, the  
4    engaging elements located on the spaced portions.

1           9.    The radial vibration detection apparatus as  
2    claimed in claim 1, further comprising a measuring tool  
3    placed on the outer surface of the circumferential wall  
4    of the base to detect the radial vibration value.

1           10.   The radial vibration detection apparatus as  
2    claimed in claim 9, wherein the measuring tool is a  
3    probe.